

PRACTICE EXERCISES

Name the least common denominator of the rational expressions.

1. $\frac{7}{9y}, \frac{11}{18y}$

2. $\frac{1}{xy^3}, \frac{3}{5x^2y}$

3. $\frac{7}{x-1}, \frac{4}{x-2}$

4. $\frac{5}{8y}, \frac{1}{y(y+2)}$

5. $\frac{1}{x+3}, \frac{2}{(x+3)^2}$

6. $\frac{3}{x}, \frac{4}{x-4}$

Add or subtract as indicated.

7. $\frac{x}{5} + \frac{2x}{5}$

8. $\frac{2x}{7} - \frac{3x}{7}$

9. $\frac{x+5}{4y} + \frac{2x+6}{4y}$

10. $\frac{x+9}{8y^2} - \frac{3x}{8y^2}$

11. $\frac{5}{x^2+2} - \frac{2}{x^2+2}$

12. $\frac{x+2}{x^2+7} + \frac{2x-4}{x^2+7}$

13. $\frac{8}{3x^3y} + \frac{4}{9xy^3}$

14. $\frac{7}{4xy} + \frac{5}{12x^2y^2}$

15. $\frac{9}{5x^2y} - \frac{3}{10xy^2}$

16. $\frac{8}{3xy^4} - \frac{7}{9x^2y}$

17. $\frac{y}{2y+4} + \frac{3}{y+2}$

18. $\frac{x}{6x-9} + \frac{5}{2x-3}$

19. $\frac{3y+1}{4y+4} - \frac{2y+7}{2y+2}$

20. $\frac{x+2}{5x-10} - \frac{3x+5}{2x-4}$

21. $\frac{2}{3x+9} + \frac{4}{2x+6}$

22. $\frac{7}{5y+25} - \frac{4}{3y+15}$

23. $\frac{y}{2y+4} + \frac{5}{y^2+2y}$

24. $\frac{x}{3x+9} + \frac{8}{x^2+3x}$

25. $\frac{5x}{2y+4} - \frac{6}{y^2+2y}$

26. $\frac{3y}{y^2-25} - \frac{8}{y-5}$

27. $\frac{4}{x^2-9} + \frac{7}{x+3}$

28. $\frac{5}{x^2-36} + \frac{9}{x^2+5x-6}$

29. $\frac{2x}{x^2-x-2} - \frac{5x}{x^2-3x+2}$

30. $\frac{y}{y^2-y-6} - \frac{y+2}{y^2+5y+6}$

31. $\frac{-x}{x^2-2x-3} - \frac{2x}{2x^2-2}$

32. $\frac{2y}{y^2+8y+7} - \frac{4y}{5y^2-5}$

33. $\frac{y+4}{y^2-2y} + \frac{2-y}{3y^2-6y}$

34. $\frac{2x+1}{x^2-2x} + \frac{3-x}{5x^2-20}$

35. $3x + \frac{x^2+5x}{x^2-2}$

36. $4y - \frac{y+2}{y^2+3y}$

37. $\frac{4x}{x^2-2x} + \frac{2}{3x+6}$

38. $\frac{5y}{y^2-7y} - \frac{4}{2y-14} + \frac{9}{y}$

39. $\frac{3x}{x^2-4} + \frac{5x}{x^2+x-2} - \frac{3}{x^2-4x+4}$

40. $\frac{3x-y}{x^2-9xy+20y^2} + \frac{2y}{x^2-25y^2}$

41. $\frac{x+2y}{x^2+4xy+4y^2} - \frac{2x}{x^2-4y^2}$